

LESSON PLAN

Unit 3. HERITAGE

X-XXX-XXX2 Rev B

Topic 3.2 Heritage - Aircraft

CLASS PERIODS: 2

LAB PERIODS: 0

Enabling Objectives:

20.4 **IDENTIFY** the major Aircraft Classifications, including Aircraft Types by their Letter Designations and Aircraft Missions in accordance with Bluejackets Manual, 21st Edition

Trainee Preparation Materials:

A. Trainee Support Materials:

1. None

B. Reference Publications:

1. None

Instructor Preparation:

A. Review Assigned Trainee Material

B. Reference Publications:

1. Bluejackets Manual 21st Edition, ISBN 1-55750-050-9

2. WWW.Chinfo.Navy.Mil/navpalib/factfile/, none

C. Training Materials Required:

1. Transparencies
 - a. Aircraft Classifications, 3-2-2
 - b. C-2A "Greyhound" Transport Aircraft, 3-2-11
 - c. C9B Skytrain, 3-2-12
 - d. CH-46 "Sea Knight" Helicopter, 3-2-15
 - e. E-2C "Hawkeye" Early Warning Aircraft, 3-2-7
 - f. EA-6B "Prowler" Electronic Warfare Aircraft, 3-2-9
 - g. ES-3 "Shadow" Electronic Reconnaissance Aircraft, 3-2-8
 - h. F-14 "Tomcat" Fighter Aircraft, 3-2-5
 - i. F/A-18 "Hornet" Attack Aircraft, 3-2-3
 - j. F/A-18 "Hornet" Fighter Aircraft, 3-2-4
 - k. Heritage Part Three - Sea Power, 3-2-1
 - l. P-3C "Orion" Patrol Aircraft, 3-2-10
 - m. S-3B "Viking" ASW Aircraft, 3-2-6
 - n. SH-3 "Sea King" Helicopter, 3-2-14
 - o. SH-60B "Seahawk" Helicopter, 3-2-16
 - p. Summary, 3-2-18
 - q. T-45A "Goshawk" Trainer Aircraft, 3-2-13
 - r. V-22A "Osprey" Multi-Mission Aircraft, 3-2-17

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DISCUSSION POINT

1. Introduction

RELATED INSTRUCTOR ACTIVITY

1. Establish Contact.

Write name on VAP board.

Introduce Yourself.

It is important to be able to recognize the aircraft you see and to know their mission and weapon capabilities. In this lesson, we will discuss major aircraft classifications, letter designation, and their mission.

State Lesson Objectives.

Reference Bluejackets Manual 21st Edition, ISBN 1-55750-050-9.

Reference WWW.Chinfo.Navy.Mil/navpalib/factfile/, none.

Show Transparency 3-2-1, Heritage Part Three - Sea Power.

2. Major Aircraft Classifications

2. Show Transparency 3-2-2, Aircraft Classifications.

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

a. Attack Aircraft

- (1) Letter designation - A (Attack)
- (2) Mission - Destroy enemy targets, at sea and ashore, with rockets, guided missiles, torpedoes, mines, and conventional or nuclear bombs
- (3) Airplane types
 - (a) F/A-18 Hornet
 - 1) Carrier-based, single-seat, twin-engine jet designed as an all-weather, day and night fighter/bomber
 - 2) Used for force projection, interdiction, and close and deep air support

- (a) Show Transparency 3-2-3, F/A-18 "Hornet" Attack Aircraft.

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

(b) AV-8B Harrier

- 1) Light-attack, single-seat, single-engine jet capable of V/STOL operations
- 2) Capable of operating from relatively unprepared sites close to the action based on LHA/LHD
- 3) Provides close air support or air defense

- 1) NOTE: V/STOL stands for Vertical/Short TakeOff Landing aircraft.

b. Fighter Aircraft

- (1) Letter designation - F (Fighter)
- (2) Mission - Designed to:

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- (a) Intercept and engage enemy aircraft
 - (b) Defend surface forces
 - (c) Escort attack and reconnaissance aircraft
 - (d) Support ground troops
- (3) Airplane types
- (a) F/A-18 Hornet
 - 1) Single seat carrier-based fighter/bomber
 - (b) F-14 Tomcat - carrier-based, supersonic two-place fighter designed to attack and destroy enemy aircraft and cruise missiles
- (a) Show Transparency 3-2-4, F/A-18 "Hornet" Fighter Aircraft.
 - (b) Show Transparency 3-2-5, F-14 "Tomcat" Fighter Aircraft.

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DISCUSSION POINT

c. Anti-submarine Aircraft

(1) Letter designation - S (Antisubmarine)

(2) Mission - Designed to:

(a) Search for submarines visually, by radar or magnetic detection, or by signals sent from floating sonobuoys

(b) Attack submarines with rockets, depth charges, or homing torpedoes

(3) Airplane type - S-3B Viking:

(a) Carrier-based, all-weather, twin-engine jet aircraft

RELATED INSTRUCTOR ACTIVITY

(3) Show Transparency 3-2-6, S-3B "Viking" ASW Aircraft.

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- (b) Can also be used for in-flight refueling, mining, and limited electronic surveillance
- (c) Has capability of using harpoon missiles
- d. Airborne Early Warning Aircraft
 - (1) Letter designation - E (Early Warning)
 - (2) Mission - Designed to:
 - (a) Uses electronic-search and radar-countermeasures equipment to provide early warning of hostile aircraft, missiles, ships, and submarines
 - (b) Additional missions include:

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- 1) surface-surveillance coordination
 - 2) strike and interceptor control
 - 3) search-and-rescue operations
 - 4) communications relay
- (3) Airplane types:
- (a) E-2C Hawkeye
 - (a) Show Transparency 3-2-7, E-2C "Hawkeye" Early Warning Aircraft.
- 1) Carrier-based, all-weather, early warning and fighter control aircraft
 - 2) An integral component of carrier air wing

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- 3) Provides tactical warning, threat analyses, and control of counteraction against air and surface targets

(b) E-6A Mercury

- 1) Provides secure, jam-resistant strategic communications relay for fleet ballistic missile submarines with national command authority during times of crisis

- 2) Serves as TACAMO airborne command post

- 2) NOTE: TACAMO stands for "Take Charge And Move Out."

e. Reconnaissance

- (1) Letter designation - E (Warning)

- (2) Mission - Designed to:

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- (a) Provides electronic surveillance
- (b) Provides an umbrella of protection for strike aircraft and ships by jamming the enemy's:
 - 1) radars
 - 2) electronic data links
 - 3) communications
- (3) Airplane types:
 - (a) ES-3 Shadow
 - 1) Long-range electronic reconnaissance aircraft

- (a) Show Transparency 3-2-8, ES-3 "Shadow" Electronic Reconnaissance Aircraft.

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- | | |
|---|--|
| <ul style="list-style-type: none">2) Used to collect and disseminate tactical reconnaissance information
3) Operates primarily with carrier battle group providing Indications and Warning (I & W) support to the battle group and joint theater commanders
4) Resembles the S-3 Viking | |
| <p>(b) EA-6B Prowler</p>
<ul style="list-style-type: none">1) A fully integrated electronic warfare system combining long-range, all-weather capabilities with advanced electronic countermeasures
2) Carries the high-speed anti-radiation missile (HARM) | <p>(b) Show Transparency 3-2-9, EA-6B "Prowler" Electronic Warfare Aircraft.</p> |

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

(c) EP-3C

- 1) Used to gather electronic intelligence (ELINT)
- 2) Contains hi-tech communications system to receive, process, and transmit tactical information through HF, UHF, VHF, and Satcom channels

f. Patrol Aircraft

(1) Letter designation - P (Patrol)

(2) Mission - Designed to:

- (a) Provide long-range anti-submarine warfare (ASW) patrol and anti-surface warfare patrols

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DISCUSSION POINT

- (b) Can carry torpedoes, mines, bombs, or missiles

- (3) Airplane type - P-3C Orion

- (a) Land-based, long-range, multi-engine anti-submarine patrol aircraft

- (b) Uses advanced sensors such as:
 - 1) Directional Frequency and Ranging (DIFAR)
 - 2) Magnetic Anomaly Detection (MAD)
 - 3) Synthetic Aperature Radar

RELATED INSTRUCTOR ACTIVITY

- (3) Show Transparency 3-2-10, P-3C "Orion" Patrol Aircraft.

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- (c) The avionics system integrates all systems and provides:

- 1) flight information to the pilot

- 2) automatic ordnance launching

- g. Transport

- (1) Letter designation - C (Transport)

- (2) Mission - Designed to:

- (a) Provide critical fleet logistics support and intra-theater airlift support

- (b) Used to carry litter patients in medical evacuation missions

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

(3) Airplane type

(a) C-2A Greyhound

(a) Show Transparency 3-2-11, C-2A "Greyhound" Transport Aircraft.

1) Provides carried-on-board (COD) services to aircraft carriers and their battle group

2) Can carry cargo, passengers, or both

3) Can carry up to 10,000 pounds

(b) C-9B Skytrain

(b) Show Transparency 3-2-12, C9B Skytrain.

1) Used for fleet logistics support, intra-theater airlift missions

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- 2) Used to shuttle Naval Reservists to and from training site

- 3) Military version of McDonnell Douglas DC-9

(c) C-12F Huron

- 1) Used to carry passengers and cargo between military installations

- 2) Can carry up to 4,215 pounds

h. Trainer Aircraft

- (1) Letter designation - T (Trainer)

- (2) Mission - Designed to:

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- (a) Provide training to prospective tactical Navy and Marine jet pilots
- (b) Provides an excellent training environment with an emphasis on safety and versatility
- (3) Airplane type:
 - (a) T-34C - Single-engine, two-seat trainer used for basic primary aviation training
 - (b) T-45A Goshawk
 - (b) Show Transparency 3-2-13, T-45A "Goshawk" Trainer Aircraft.
 - 1) Primarily used for advanced jet pilot training
 - 2) Used for radio, navigation, and weapons-delivery training

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

i. Helicopters

(1) Letter designation - H (Helicopter)

(2) Missions - include:

(a) Anti-submarine warfare:

- 1) Helicopter is equipped to detect a submarine and destroy it
- 2) Sonobouys, MAD, radar
- 3) Using sonar, the helicopter lowers a sonar "ball" into the water and attacks the target with torpedoes

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- (b) Minesweeping - helicopter flies a few feet above the water with minesweeping gear in tow

- (c) General utility - includes:
 - 1) Transporting mail, light cargo, and personnel from one ship to another
 - 2) Search and rescue
 - 3) Helping ships check radar accuracy
 - 4) Patrol

- (d) Vertical envelopment - carrying troops from amphibious-assault ships to beach landings

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- (e) Vertical replenishment (VERTREP) - used for cargo transfer between ships situated alongside each other

- (f) Light Airborne Multipurpose System (LAMPS) Mk III Helicopter
 - 1) Carries weapons to detect, localize, and destroy submarines

 - 2) Provides over-the-horizon (OTH) targeting information for surface-to-surface missile

 - 3) Pelican missiles/ASUW

- (3) Helicopter types

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DISCUSSION POINT

- (a) SH-3 Sea King
 - 1) Twin-turbine, all-weather helicopter designed for ASW operations
 - 2) Carries dipping sonar, torpedoes, and depth charges
 - 3) Used on aircraft carriers as plane guards
- (b) CH-46 Sea Knight
 - 1) Twin-turbine, twin-blade transport helicopter that provides the fleet with a day/night underway replenishment capability

RELATED INSTRUCTOR ACTIVITY

- (a) Show Transparency 3-2-14, SH-3 "Sea King" Helicopter.
- (b) Show Transparency 3-2-15, CH-46 "Sea Knight" Helicopter.

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- 2) Can carry 6,000 pounds of cargo

(c) RH-53D Sea Stallion

- 1) Tows and operates various mine countermeasure devices designed to detect and neutralize submerged naval mines
- 2) Can be configured for long-distance, high capacity transporting of cargo and personnel

(d) SH-60B/F/R Seahawk

- 1) Airborne segment of the LAMPS Mk III weapons system used to detect, localize, and destroy submarines at long distances

- (d) Show Transparency 3-2-16, SH-60B "Seahawk" Helicopter.

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- | | |
|---|--|
| 2) Capable of providing targeting information for over-the-horizon (OTH) operations | |
| 3) Pelican missiles/ASUW | |
| 4) Search and rescue | |
| (e) TH-57 Sea Ranger | |
| 1) Used for advanced pilot training | |
| 2) Can be used for photo, chase, and utility missions | |
| (f) V-22A Osprey under development of USMC/USN | (f) Show Transparency 3-2-17, V-22A "Osprey" Multi-Mission Aircraft. |

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DISCUSSION POINT

- 1) Multi-mission aircraft combines vertical take-off and landing capability with high-speed and high-altitude
- 2) Provides combat search and rescue, delivery and retrieval of special warfare teams capability
- 3) Can be used as a fleet logistic transport

RELATED INSTRUCTOR ACTIVITY

3. Summary

- a. Major aircraft classifications
- b. Major aircraft types
- c. Aircraft missions

3. Show Transparency 3-2-18, Summary.

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DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

4. Assignment

a. None

5. Evaluation

a. None